AMENDMENTS TO THE CLAIMS

Please amend the claims as follows:

LISTING OF CLAIMS:

Claim 1. (Original) An antibody molecule capable of specifically recognizing two regions of the β-A4 peptide/Aβ4, wherein the first region comprises the amino acid sequence AEFRHDSGY as shown in SEQ ID NO: 1 or a fragment thereof and wherein the second region comprises the amino acid sequence VHHQKLVFFAEDVG as shown in SEQ ID NO: 2 or a fragment thereof.

Claim 2. (Original) The antibody molecule of claim 1, wherein said antibody molecule recognizes at least two consecutive amino acids within the two regions of β-A4.

Claim 3. (Currently amended) The antibody molecule of claim 1 ~~or 2~~, wherein said antibody molecule recognizes in the first region an amino acid sequence comprising: AEFRHD, EF, EFR, FR, EFRHDSG, EFRHD or HDSG and in the second region an amino acid sequence comprising: HHQKL, LV, LVFFAE, VFFAED, ~~or~~ VFFA[[,]] or FFAEDV.

Claim 4. (Currently amended) The antibody molecule of claim ~~any one of claims~~ 1 ~~to 3~~, wherein said antibody molecule comprises a variable V_H-region as

encoded by a nucleic acid molecule as shown in a SEQ ID NO selected from the group consisting of SEQ ID NOs: ~~SEQ ID NO:~~ 3, 5 and ~~or~~ 7, or a variable V_H-region as shown in a SEQ ID NO: selected from the group consisting of SEQ ID NOs: 4, 6 and 8.

Claim 5. (Currently amended) The antibody molecule of ~~any one of claims~~ claim 1 ~~to 3~~, wherein said antibody molecule comprises a variable V_L-region as encoded by a nucleic acid molecule as shown in a SEQ ID NO selected from the group consisting of SEQ ID NOs: ~~SEQ ID NO:~~ 9, 11 and 13, or a variable V_L-region as shown in a SEQ ID NO selected from the group consisting of SEQ ID NOs: 10, 12 and 14.

Claim 6. (Currently amended) The antibody molecule of claim ~~any one of claims~~ 1 ~~to 5~~, wherein said antibody molecule comprises at least one CDR3 of an V_L-region as encoded by a nucleic acid molecule as shown in SEQ ID NOs: 15, 17 or 19, or at least one CDR3 amino acid sequence of an V_L-region as shown in SEQ ID NOs: 16, 18 or 20; and/or wherein said antibody molecule comprises at least one CDR3 of an V_H-region as encoded by a nucleic acid molecule as shown in SEQ ID NOs: 21, 23 or 25, or at least one CDR3 amino acid sequence of an V_H-region as shown in SEQ ID NOs: 22, 24 or 26.

Claim 7. (Currently amended) The antibody molecule of claim ~~any one of claims~~ 1 ~~to 6~~, wherein said antibody is selected from the group consisting of MSR-3, -7 and -8, and ~~or~~ an affinity-matured version of MSR-3, -7 and ~~or~~ -8.

Claim 8. (Currently amended) The antibody molecule of claim ~~any one of claims~~ 1 ~~to 7~~, wherein said antibody molecule is a full antibody (immunoglobulin), a F(ab)-fragment, a $F(ab)_2$-fragment, a single-chain antibody, a chimeric antibody, a CDR-grafted antibody, a bivalent antibody-construct, a synthetic antibody or a cross-cloned antibody.

Claim 9. (Currently amended) The antibody molecule of claim ~~any one of claims~~ 1 ~~to 8~~, wherein said ~~at least~~ two regions of β-A4 form a conformational epitope or a discontinuous epitope.

Claim 10. (Currently amended) The antibody molecule of claim 8 ~~or 9~~, wherein said cross-cloned antibody is selected from the group consisting of

MS-R 3.6H5 x 3.6L2;

MS-R 3.6H8 x 3.6L2;

MS-R 7.4H2 x 7.2L1;

MS-R 7.9H2 x 7.12L2;

MS-R 7.9H4 x 7.12L2;

MS-R 7.11H1 x 7.11L1;

MS-R 7.11H1 x 7.2L1;

MS-R 3.3H1 x 3.4L1;

MS-R 3.4H1 x 3.4L9;

MS-R 3.4H3 x 3.4L7;

MS-R 3.4H3 x 3.4L9;

MS-R 3.4H7 x 3.4L9;

MS-R 3.4H7 x 3.4L7;

MS-R 3.6H5 x 3.6L1;

MS-R 7.2H2 x 7.2L1;

MS-R 7.4H2 x 7.12L2;

MS-R 7.9H2 x 7.2L1;

MS-R 7.9H2 x 7.12L1;

MS-R 7.11H2 x 7.2L1;

MS-R 7.11H2 x 7.9L1;

MS-R 7.11H2 x 7.12L1; and ~~or~~

MS-R 8.1H1 x 8.2L1.

Claim 11. (Currently amended) A nucleic acid molecule encoding an antibody molecule according to claim ~~of any one of claims~~ 1 ~~to 10~~.

Claim 12. (Original) A vector comprising the nucleic acid molecule of claim 11.

Claim 13. (Original) A host cell comprising the vector of claim 12.

Claim 14. (Currently amended) A method for the preparation of an antibody molecule ~~of any one of claims 1 to 10~~ comprising culturing the host cell of claim 13 under conditions that allow synthesis of said antibody molecule and recovering said antibody molecule from said culture.

Claim 15. (Currently amended) A pharmaceutical or diagnostic composition comprising an antibody molecule according to claim ~~of any one of claims~~ 1 and a carrier or diluent ~~to 10 or an antibody molecule produced by the method of claim 14~~.

Claim 16. (Currently amended) The composition of claim 15, which is a pharmaceutical ~~or a diagnostic~~ composition.

Claims 17-21. (Cancelled).

Claim 22. (Currently amended) A kit ~~Kit~~ comprising an antibody molecule according to claim ~~of any one of claims~~ 1 ~~to 10~~, a nucleic acid molecule according to ~~of~~ claim 16, a vector according to ~~of~~ claim 17 or a host cell according to ~~of~~ claim 18, wherein the antibody, nucleic acid, vector or host cell is contained in at least one vial, bottle, container or multicontainer unit.

Claim 23. (Currently amended) A method for the optimization of an antibody molecule ~~as defined in any one of claims 1 to 10~~ comprising the steps of:

(a) constructing a library of diversified Fab antibody fragments derived from an antibody comprising at least one CDR3 of an V_H-region as encoded by a nucleic acid molecule as shown in SEQ ID NOs: 21, 23 or 25, or at least one CDR3 amino acid sequence of an V_H-region as shown in SEQ ID NOs: 22, 24 or 26;

(b) testing the resulting Fab optimization library by panning against Aβ/Aβ4;

(c) identifying optimized clones; and

(d) expressing the identified ~~of selected~~, optimized clones.

Claim 24. (Currently amended) The method of claim 23 further comprising subjecting ~~a step (ca), whereby~~ the identified, optimized clones to ~~are further optimized by~~ cassette mutagenesis prior to expressing the identified, optimized clones.

Claim 25. (Currently amended) The method of claim 23 ~~or 24~~, wherein said Aβ/Aβ4 in step (b) is aggregated Aβ/Aβ4.

Claim 26. (Currently amended) The method of claim ~~any one of claims~~ 23 ~~to 25~~, wherein said identification in step (c) is carried out by koff-ranking.

Claim 27. (Currently amended) A method for the preparation of a pharmaceutical composition comprising the steps of:

(a) optimizing ~~optimization of~~ an antibody according to the method of claim ~~any one of claims~~ 23 ~~to 26~~; and

(b) formulating the optimized antibody/antibody molecule with a ~~an~~ physiologically acceptable carrier.

Claim 28. (Original) A pharmaceutical composition prepared by the method of claim 27.

Claim 29. (New) A composition comprising an antibody molecule produced by the method of claim 14.

Claim 30. (New) The composition of claim 16 further comprising a pharmaceutically acceptable carrier and/or diluent.

Claim 31. (New) A method for treating a disease associated with amyloidogenesis and/or amyloid-plaque formation in a subject comprising administering to said subject an antibody according to claim 1 in an amount effective to treat the disease.

Claim 32. (New) The method of claim 31, wherein said disease is selected from the group consisting of dementia, Alzheimer's disease, motor neuropathy, Down's syndrome, Creutzfeld Jacob disease, hereditary cerebral hemorrhage with amyloidosis Dutch type, Parkinson's disease, HIV-related dementia, ALS (amyotropic lateral sclerosis) and a neuronal disorder related to aging.

Claim 33. (New) The method of claim 31, wherein the antibody is administered in an amount from about 1 ng/kg body weight/dose to about 10 mg/kg body weight/dose.

Claim 34. (New) A method for preventing a disease associated with amyloidogenesis and/or amyloid-plaque formation in a subject comprising administering

to said subject an antibody according to claim 1 in an amount effective to prevent the disease.

Claim 35. (New) The method of claim 34, wherein said disease is selected from the group consisting of dementia, Alzheimer's disease, motor neuropathy, Down's syndrome, Creutzfeld Jacob disease, hereditary cerebral hemorrhage with amyloidosis Dutch type, Parkinson's disease, HIV-related dementia, ALS (amyotropic lateral sclerosis) and a neuronal disorder related to aging.

Claim 36. (New) A method for detecting a disease associated with amyloidogenesis and/or amyloid-plaque formation in a subject comprising:

providing a brain section from the subject;

contacting the brain section with a composition comprising an antibody according to claim 1; and

detecting the binding of antibody to the brain section.

Claim 37. (New) The method of claim 36, wherein said disease is selected from the group consisting of dementia, Alzheimer's disease, motor neuropathy, Down's syndrome, Creutzfeld Jacob disease, hereditary cerebral hemorrhage with amyloidosis Dutch type, Parkinson's disease, HIV-related dementia, ALS (amyotropic lateral sclerosis) and a neuronal disorder related to aging.

Claim 38. (New) A method for disintegrating a β-amyloid plaque comprising contacting said β-amyloid plaque with an antibody according to claim 1.

Claim 39. (New) A method for disintegrating a β-amyloid plaque in a subject comprising administering to said subject an antibody according to claim 1 in an amount effective to disintegrate the β-amyloid plaque.

Claim 40. (New) A method for passively immunizing against β-amyloid plaque formation in a subject comprising administering to said subject a passive-immunizing amount of an antibody according to claim 1.